

**STATE OF VERMONT  
PUBLIC SERVICE BOARD**

Petition of twenty Vermont utilities and )  
Vermont Public Power Supply Authority )  
requesting authorization pursuant to 30 )  
V.S.A. § 248 for the purchase of shares of )  
218 MW to 225 MW of electricity from H.Q. )  
Energy Services (U.S.) Inc. commencing )  
November 1, 2012 through 2038, issuance of )  
findings that such purchases are entitled to )  
rate recovery assurance, and requesting )  
certain approvals under 30 V.S.A. § 108. )

Docket No. 7670

**JOINT REBUTTAL TESTIMONY OF  
WILLIAM J. DEEHAN AND CHRISTOPHER COLE  
ON BEHALF OF  
PETITIONERS**

November 19, 2010

The joint rebuttal testimony of Messrs. Deehan and Cole responds to certain testimony offered by witness Hans Mertens on behalf of the Department of Public Service, and witness William Steinhurst on behalf of the Conservation Law Foundation.

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**Introduction**

**Q1. What is the purpose of your testimony?**

**A1.** We respond to the testimony of Mr. Mertens on behalf of the Department of Public Service ("Department" or "DPS") and the testimony of Dr. Steinhurst on behalf of the Conservation Law Foundation ("CLF").

**Response to DPS**

**Q2. Please summarize your conclusions regarding Mr. Mertens' testimony.**

**A2.** We appreciate witness Merten's testimony and conclusions with respect to the Contract's compliance with statutory requirements. Mr. Mertens has also expressed a concern regarding the potential impact upon the Power Purchase & Sale Agreement ("PPA") Contract Price if there were to be a long-term outage of the Highgate Converter, and suggests that Petitioners provide additional modeling and analysis on this point. While

1 we understand the concern, we believe that the actual exposure here is extremely limited.

2  
3 Over a forward twenty-six year period, there are many potential configurations that the  
4 high voltage network could take and, to thoroughly investigate the impacts stemming  
5 from a long-term failure of the Converter one would have to postulate multiple network  
6 configurations and operating scenarios and model the resultant load flows. This would be  
7 a significant analytical undertaking (as to time and expense) that we have not performed.

8 We have not because: (1) the potential magnitude of a price effect is small; (2) the  
9 likelihood of a long term outage is remote; and (3) the duration of a long term outage, if  
10 one did occur, would likely be limited to 6 to 12 months. Taken together, these factors  
11 mean that the potential Contract cost impacts associated with an extended Highgate  
12 Converter outage are extremely limited. Given all of this, we have not considered load  
13 flow modeling to offer the prospect of much additional insight relative to its expense. If  
14 after reviewing this testimony, the DPS concludes that additional modeling would  
15 nonetheless provide helpful information, we will work with the DPS to accomplish what  
16 it believes is needed. We emphasize, however, that such additional analysis is not  
17 necessary for the Board to conclude that this PPA provides an economic benefit and is in  
18 the general good of the state.

19

1        **Response to CLF**

2        **Q3. Please summarize your conclusions regarding CLF's testimony.**

3        **A3.** Most of the CLF testimony focuses on concerns regarding the environmental attributes  
4        under the PPA. CLF's testimony at pages 7 and 20 recommends that, if the Board  
5        approves the PPA, it do so subject to four conditions: (1) prohibit Buyers from  
6        representing that the PPA power is renewable or low-carbon; (2) require an independent  
7        analysis of the PPA on the basis of Hydro-Québec Production ("HQP")'s "incremental  
8        system mix"; (3) require a post-CPG condition of ongoing, independent third-party  
9        verification based upon hourly accounts of the environmental attributes transferred under  
10       the PPA; and (4) require Buyers to retire the attributes or sell them on condition that the  
11       utilities not count the attributes or associated power toward SPEED goals or any Vermont  
12       RPS.

13  
14       We recommend that the Board not impose these conditions, because they are  
15       fundamentally unnecessary, would provide no additional value to the Buyers and their  
16       customers, and may in fact create disadvantages.

17  
18       While, from one perspective, the PPA meets the Section 248 criteria and is in the general  
19       good of the state even if the attributes had not been included as a product in the deal,  
20       there is no reason to impugn the attributes' value or otherwise encumber their potential,

1 as CLF's recommendation most certainly would. The PPA is a long-term, cost effective,  
2 stably priced hedge that brings value to Vermont. The transfer of attributes and attributes  
3 revenue sharing provisions provide additional value.  
4

5 **Q4. Will your rebuttal testimony address each comment, assertion or conclusion in**  
6 **CLF's testimony that you do not agree with?**

7 **A4.** No it will not. Where this testimony does not address a remark from the CLF testimony,  
8 it should not be interpreted that we agree with CLF. CLF's testimony contains many  
9 remarks that are not pertinent to the PPA or the applicable Section 248 criteria, or are  
10 better suited for legal brief. We therefore do not respond to such points in our testimony.  
11

12 **Q5. Please address CLF's statement (page 5, lines 8-10) that the environmental**  
13 **attributes should not be considered in deciding whether to approve the PPA.**

14 **A5.** As indicated in our direct testimony at 21-22, and in the testimony of each Buyer, the  
15 PPA provides an economic benefit to Vermont and its residents. These benefits accrue  
16 without consideration of the provisions relating to Environmental Attributes, so CLF's  
17 point has no practical effect on the Board's approval of the PPA. While from one  
18 perspective, placing no weight on the attributes would have no impact on the Board's  
19 ability to approve the PPA, we urge that the Board not adopt CLF's recommendations,  
20 because the attributes are important and worthwhile in their own right and to limit or

1       encumber them, as CLF proposes, will reduce that additional value.

2  
3       **Q6.   How do you respond to CLF's concern (page 8, lines 9-10) that HQUS will not be**  
4       **able to verify that the power sold from the HQP System Mix "will at all times be at**  
5       **least 90% hydro"?**

6       **A6.**   To the extent that CLF is suggesting that there is a flaw in the PPA because it does not  
7       require instantaneous verification "at all times," we disagree. The reporting and  
8       verification protocols utilized in the PPA are annual and consistent with accepted  
9       industry practices, which focus on Vintage year reporting periods. The Green-e standard,  
10      for example, is based upon an annual analysis as are all state Renewable Portfolio  
11      Standard ("RPS") markets in New England which rely upon the NEPOOL GIS. More  
12      broadly, tracking attribute ownership apart from energy (*i.e.* no instant verification) is  
13      standard practice in today's mandatory and voluntary renewable programs. Additionally,  
14      CLF seems to challenge HQUS's ability to deliver the hydro content required under the  
15      Contract (90%). This notion is not supported by the reality of HQP's current and  
16      proposed supply mix.

17  
18      **Q7.   CLF identifies (at page 8, lines 26-29) as "most troubling," HQUS's right to sell**  
19      **attributes to third parties. Is this a concern?**

20      **A7.**   No. It appears that CLF's concern is based upon a partial reading of the pertinent PPA

1 provision, and is addressed when this provision is read in its entirety. Specifically,  
2 Section 3.3(d)(iv) of the PPA includes the underlined phrase, in addition to the portion  
3 quoted by CLF: “subject to Seller’s obligation to transfer the Environmental Attributes  
4 Quantity pursuant to this Section 3.3, nothing in this Agreement shall be interpreted as  
5 restricting the rights of Seller or any of its Affiliates to sell to any third parties any  
6 environmental attributes relating to Hydro-Québec Production’s generation.” Exh.  
7 Petitioners’ Joint 4 at Section 3.3(d)(iv). The provision therefore permits HQUS to sell to  
8 third parties only attributes that have not been transferred to the Buyers under the PPA.

9  
10 **Q8. Please address CLF’s comments as to whether the PPA will cause the need for new**  
11 **Hydro-Québec generation.**

12 **A8.** Dr. Steinhurst states (page 9, lines 21-22) that we have not proven that the PPA will not  
13 require new construction. Yet, he does not challenge the fact that there is no such  
14 requirement contained in the PPA, that Hydro-Québec has a 5% (10 TWh) energy surplus  
15 and plans to increase generation by an additional 5%, or that the PPA represents a  
16 reduction in purchases from the current contract. He suggests, however, that proposed  
17 generation “may be” cancelled or deferred and that the current 5% margin “is a modest  
18 allowance for unexpected growth, electrification or other purposes.” The 10% margin  
19 equates to 4000 MW, or nearly eighteen times the MW associated with the PPA. Simply  
20 put, the PPA reflects a tiny portion of Hydro-Québec’s supply resources, and Dr.



1 Steinhurst's speculation as to possible future events does not demonstrate that the PPA  
2 will cause new construction.

3  
4 Ironically, despite expressing concerns that the PPA may cause new construction, Dr.  
5 Steinhurst also suggests that the PPA should be approved only if it causes new  
6 construction. In particular, he states (page 9, lines 5-7) that unless there is new  
7 construction, there is "no value in the real world" associated with the PPA attributes,  
8 because "it is incremental generation and its attributes that actually affect the  
9 environment" (i.e. a test for "additionality"). We have emphasized earlier and in our  
10 direct testimony that the PPA provides economic benefits separate and apart from the  
11 Environmental Attributes, and therefore this statement provides no basis for rejecting the  
12 PPA. More importantly, environmental attributes associated with existing renewables do  
13 have value. RPS requirements in New England, for instance, are not limited to new  
14 generation as of the time of a REC transaction. Moreover, while CLF seems to place no  
15 value on attributes unless the energy is associated with its view of "real world"  
16 environmental value ("additionality") it also acknowledged that the transfer of attributes  
17 "push(es) the burden of actually meeting greenhouse gas emission reduction goals onto other  
18 parties." This is precisely the reason the Buyers believe that there is potentially significant  
19 value in the Environmental Attribute product, as this "burden" is unlikely to be borne at a  
20 low cost.

1  
2 **Q9. Please respond to CLF's claims (pages 13-15) that the RFP described in the Smith**  
3 **and Cater/Deehan/Watts testimony is not a proper benchmark for analyzing the**  
4 **PPA.**

5 **A9.** CLF's claim is misplaced. Forecasted energy efficiency savings in Vermont were built  
6 into the forecasts of demand estimates of each Petitioner's case. As a whole, these were  
7 conservative and clearly demonstrate that the power supply gap facing Vermont cannot  
8 be met with energy efficiency.

9  
10 **Q10. CLF's testimony at page 18, lines 17-19 suggests that your responses to discovery**  
11 **concede that sale of the PPA attributes would "increase carbon emissions associated**  
12 **with Vermont's electricity supply." Is that correct?**

13 **A10.** No. CLF misunderstands our response. A sale of attributes, by itself, has no direct  
14 causal effect on the amount of carbon emissions. Although we agreed in discovery that  
15 the PPA will help maintain Vermont's environmentally benign portfolio only if the claim  
16 to the attributes were not sold (outside of the state), this only means that an interstate  
17 transfer of attributes reduces the benign nature of the transferring state's portfolio and  
18 increases it in the receiving state, other things being equal, without any necessary effect  
19 on overall carbon emissions.

1   **Q11. Please address CLF's first proposed condition (page 7, lines 1-3), a prohibition by**  
2       **the Board against "any claim by the Petitioners that the power provided under the**  
3       **Contract is renewable, low carbon, or otherwise environmentally preferred."**

4   **A11.** As a general matter, all of CLF's proposed conditions relate to claims and verification  
5       issues that could potentially affect many other types of power contracts and generation  
6       facilities, and therefore to the extent that the Board determines that there is a need to  
7       investigate such issues, it should be on a generic basis, such as a proceeding to address  
8       labeling requirements for retail sales under 30 V.S.A. § 209(f), rather than in an  
9       individual § 248 proceeding. To be clear, whatever limited portion of the PPA purchase  
10      that is not attested to by HQUS as being associated with the renewable resources in the  
11      HQP System Mix in each year of the Contract, such portion will not be claimed as  
12      renewable by the Buyers. The same will be the case with respect to the portions of the  
13      purchase that are not low carbon or devoid of other environmental attributes. However,  
14      the vast majority of the power will be renewable, and it is appropriate and beneficial to  
15      Vermont customers and consistent with Vermont law for the Buyers to make that claim.  
16      It is appropriate because the operation of those portions of HQP's output mix will be  
17      driven by a renewable resource: water.

18  
19      Furthermore, it is impossible today to foretell how the value of these renewable attributes  
20      may change over the twenty-six year PPA term. Just as an example, if CLF's

1 recommended condition were adopted by this Board, and a national RPS qualifying large  
2 hydro became law, CLF's condition would preclude the PPA power from being eligible  
3 to meet the RPS. As another example, CLF's condition would preclude GMP from  
4 reporting the PPA power as 90% renewable even if the reporting authority expressly  
5 permits it to be described in this way. Without knowing today everything else that could  
6 pertain to such a circumstance, can it be in any way conceivable that it would be wise to  
7 disclaim the renewable content that HQUS will, year after year, attest to be our property  
8 right? The answer, of course, is no.

9  
10 "Hydroelectricity" is classified as renewable under Vermont law, and the PPA obligates  
11 HQUS to attest to and transfer attributes in each year consisting of power consistent with  
12 the HQP System Mix and in no case can be less than 90% hydroelectric. The attributes  
13 are beneficial because customers will receive the intangible, compliance or monetary  
14 value of this renewable resource, and to prohibit claiming them could eliminate that  
15 value. There is no good reason for the Board to accept CLF's recommendation to in  
16 effect throw these attributes away.

17  
18 **Q12. How do you respond to CLF's proposed second and third conditions (Page 7, lines 7-**  
19 **30), requiring a third party analysis of Hydro-Québec "incremental system mix" on**  
20 **a current and on-going basis?**

1   **A12.**   An analysis of HQP's "incremental system mix" is not relevant to this PPA, because the  
2           PPA's environmental attributes, rather than new or "incremental" renewable generation,  
3           will be attested to by HQUS as an assignment from the HQP system reflecting the overall  
4           system power mix of generation sources in the HQP system ("HQP System Mix"), and in  
5           no case less than 90% hydro based. See PPA Section 3.3.

6  
7           Environmental attributes that are traded in the regional market may be associated with  
8           existing renewable power and new renewable power. RPS requirements in New England,  
9           for instance, are not limited to incremental or new generation as of the time of a REC  
10          transaction. It would not be reasonable nor in the best interests the Vermont Buyers or  
11          their customers for the Board to require the assignment of an arbitrary incremental mix  
12          condition that would not match HQUS's attestation of the attributes transferred to the  
13          Buyers, or an arbitrary condition that would preclude the Buyers from trading them. For  
14          the accounting of attributes to maintain integrity, the Buyers' claims must mirror the  
15          attestation of attributes provided by HQUS.

16  
17          We agree that it is important to Petitioners and their customers that the attributes  
18          associated with the purchases not be double counted. Toward this end, and as described  
19          on pages 32-33 of our direct testimony, the Contract contains (1) attestation, reporting  
20          and verification requirements that require HQUS to verify that it has transferred the

1 attributes to Buyers and to transfer certificates to the Buyers representing the  
2 environmental attributes associated with the imported energy, and (2) remedies should  
3 HQUS fail to perform the attributes transfer and verification requirements. The PPA  
4 therefore provides a platform for transfers of PPA environmental attributes over the  
5 twenty-six year term of the PPA, in a manner currently similar to other attributes, but  
6 leaves sufficient flexibility for future changes as to how attributes may be documented  
7 and traded in the region.

8  
9 Moreover, today, Vermont utilities are not required to satisfy an RPS requirement, and  
10 the terms for such a requirement have not been defined by the Legislature or this Board.  
11 It is therefore premature and would be arbitrary to make a judgment that limits how  
12 purchases under this PPA will be treated under some potential future Vermont RPS.

13  
14 Finally, we note that other states have and will define the terms for their RPS's. To the  
15 extent that the resales of attributes purchased under the PPA will satisfy these standards,  
16 the Vermont Buyers should retain the potential to resell the attributes to satisfy these  
17 requirements. The Board should not impose conditions that would limit the value of the  
18 attributes in such transactions. The proceeds from such transactions will inure to the  
19 benefit of the Vermont Buyers and their customers.

1 **Q13. Please comment on CLF's fourth condition, a requirement that PPA attributes be**  
2 **retired or, if sold, that they not be used towards SPEED goals or a Vermont RPS,**  
3 **(page 20, lines 21-24).**

4 **A13.** This condition would prevent an attribute purchaser from using them to satisfy a SPEED  
5 goal or RPS requirement, even if the attributes clearly qualify. There is no basis for this  
6 proposed condition.

7  
8 This request is based on CLF's flawed view of the Environmental Attribute product and  
9 should be dismissed. The Vermont Buyers believe, to the contrary, energy purchases  
10 which include attributes like those in the PPA are exactly what Vermont lawmakers were  
11 trying to promote when the statute was amended in 2010. It is also reasonable not to take  
12 any action now that could later prohibit these attributes from a role in future renewable  
13 content legislation, because such legislation would be enacted with full knowledge of the  
14 implications of including the PPA in its goals. More generally, the inclusion of attributes  
15 with the PPA energy (or any purchase) will both help customers better understand the  
16 environmental content of the product that their utilities purchase to serve their entire load,  
17 and also provide those who would design future programs with information relative to  
18 existing levels of environmental commitment which could help them better understand  
19 where Vermont stands in comparison to other jurisdictions.

1    **Q14. Does this conclude your testimony?**

2    **A14. Yes.**